Listing of the Claims

1. (Currently Amended) A physiological monitoring system ~~(10)~~ which comprises:

at least one sensor for detecting a biological signal ~~(112)~~, representative of a physiological characteristic of a monitor-wearing patient and generating an electrical signal representative of the biological signal;

at least one sensor for detecting the physical activity of the patient ~~(114)~~ and generating an electrical signal, representative of physical activity;

processing means ~~(142)~~, coupled to said sensors ~~(112, 114)~~ for processing said electrical signals;

an activity threshold detector ~~(148)~~ coupled to said processing means ~~(142)~~ for receiving said electrical signals representative of physical activity;

~~means for testing system functions;~~

a user interface ~~(170)~~ for communicating information about the detected biological signal ~~and system functions~~ to the patient;

means for controlling the communication of information ~~(109)~~ in response to detection of an activity threshold by said activity threshold detector ~~(148)~~.

2. (Currently Amended) The system of claim 1, further comprising a means for programming said physical activity sensor ~~114~~ for operational control at a selected threshold of physical activity.

3. (Currently Amended) The system of claim 1, wherein the physiological characteristic sensor ~~(112)~~ is adapted to sense cardiac signals.

4. (Currently Amended) The system of claim 1, wherein the physiological characteristic sensor ~~(112)~~ comprises electrocardiography electrodes that detect biological signals representative of the heart beats of the patient.

5. (Currently Amended) The system of claim 1, wherein the physical activity sensor ~~(114)~~ comprises a transducer that detects chemical, electrical or mechanical characteristics of a monitor-wearing patient, representative of physical activity, including vibrations, motion, acceleration, electromyographic impulses, or sound impulses.

6. (Currently Amended) The system of claim 1, wherein the physical activity sensor ~~(114)~~ comprises an accelerometer, a pedometer, an electrical noise detector, electronic capacitive sensor, an electromyographic sensor, a skin impedance sensor, or a piezoelectric sensor.

7. (Currently Amended) The system of claim 1, wherein the physical activity sensor ~~(114)~~ is a passive transducer including a piezoelectric element.

8. (Currently Amended) The system of claim 1, further comprising a means for wireless transmission of information ~~(109)~~ about the detected biological signal or system functions to a receiver external to the system.

9. (Currently Amended) An ambulatory electrocardiography monitoring system ~~(10)~~ for recording electrocardiography signals from a patient, comprising:

a plurality of sensors ~~(110)~~ for detecting a plurality of biological signals, each biological signal representative of a physiological characteristic of a monitor-wearing patient, wherein at least one sensor ~~(110)~~ comprises a one or more electrocardiography electrodes ~~(112)~~ that sense electrocardiography signals from a patient and at least one sensor ~~(110) comprises a sensor~~ that detects the activity level of the patient ~~(114)~~, whereby the sensors generate an electrical signal representative of each respective biological signal;

an arrhythmia threshold detector ~~(142)~~ coupled to the electrocardiography sensor ~~(112)~~ for receiving said electrical signals representative of the electrocardiography signals and determining whether the signals are below or above a preset threshold;

an activity threshold detector ~~(148)~~ coupled to the activity sensor ~~(114)~~ for receiving said electrical signals representative of the activity level of the patient and determining whether the signals are below or above a predetermined threshold;

a system error detector ~~(142)~~ for detecting system errors ~~, including signal loss, electrode detachment from patient, low battery power, corrupted data, or electrical interference~~ and determining if the detected error meets pre-determined criteria;

a processor ~~(142)~~ for controlling the communication of system and biological signal information to the patient through a user interface ~~(170)~~ based on the detection of an activity threshold by said activity threshold detector ~~(148)~~, arrhythmia threshold by said arrhythmia threshold detector ~~(142)~~, and/or system errors by the system error detector ~~(142)~~.

10. (Currently Amended) The system of claim 9, wherein the user interface ~~(170)~~ comprises an alarm circuit ~~(160)~~ comprising acoustic, tactile, or visual modes of

communicating information to the patient, and mode is determined by processor (142) based on whether the signals from the respective detectors (142, 148) meet pre-determined thresholds.

11. (Currently Amended) The system of claim 9, wherein processor (142) further comprises a calibration means for setting the threshold of the arrhythmia threshold detector (142) based on processing of electrocardiography signals from the patient to generate a baseline of electrocardiography information.

12. (Currently Amended) The system of claim 9, wherein the threshold of the arrhythmia threshold detector (142) is pre-programmed into a memory component (142, 144) of the system (10).

13. (Currently Amended) The system of claim 9, wherein the physical activity sensor (114) comprises a transducer that detects chemical, electrical or mechanical characteristics of a monitor-wearing patient, representative of physical activity, ~~including vibrations, motion, acceleration, electromyographic impulses, or sound impulses.~~

14. (Currently Amended) The system of claim 9, wherein the physical activity sensor (114) comprises an accelerometer, a pedometer, an electrical noise detector, electronic capacitive sensor, an electromyographic sensor, a skin impedance sensor, or a piezoelectric sensor.

15. (Currently Amended) The system of claim 9, wherein the physical activity sensor (114) is a passive transducer including a piezoelectric element.

16. (Currently Amended) The system of claim 9, wherein the arrhythmia threshold detector ~~(142)~~ is set at a pre-determined threshold to detect the occurrence of class 1 arrhythmia event.

17. (Currently Amended) The system of claim 9, further comprising means of wireless communication ~~(109)~~ to an external system, for communication of information about the patient and system state to the patient or to others.

18. (Currently Amended) A method for communicating information about a patient during ambulatory monitoring of a physiological condition of the patient comprising ~~the steps of~~:

attaching a physiological monitoring system ~~(10)~~ to a patient;

sensing one or more selected physiological parameters of the patient;

sensing the physical activity of the patient;

comparing the sensed physical activity to a pre-set threshold to determine whether the physical activity exceeds the threshold;

detecting a system error to be communicated to the patient and determining whether the detected error meets pre-determined criteria;

generating an error signal based on the system error and transmitting the error signal to the patient via a user interface ~~(170)~~, if the physical activity of the patient exceeds the pre-set threshold.

19. (Currently Amended) The method of claim 18, wherein the physical activity sensor ~~(114)~~ comprises a transducer that detects pre-determined chemical, electrical or mechanical characteristics of a monitor-wearing patient that are representative

of physical activity, wherein the characteristics comprise vibrations, motion, acceleration, electromyographic impulses, or sound impulses.

20. (Currently Amended) The method of claim 18, wherein the physical activity sensor (114) comprises an accelerometer, a pedometer, a noise detector, electronic capacitive sensor, an electromyographic sensor, or a piezoelectric sensor.

21. (Currently Amended) The method of claim 18, wherein the selected physiological parameter of the patient is sensed by at least one sensor (110) comprising two or more electrocardiography electrodes (112) that sense electrocardiography signals from the patient, whereby the sensor (110) generates an electrical signal representative of the selected physiological parameter.

22. (Currently Amended) The method of claim 18, wherein the physiological parameter comprises electrocardiography signals and the threshold of the selected physiological parameter of the patient is detected by an arrhythmia threshold detector (142) that determines whether the sensed electrocardiography signals are below or above a selected threshold representing an arrhythmic event.

23. (Currently Amended) A method for communicating information about a patient during ambulatory monitoring of a physiological condition of the patient comprising the steps of:

attaching a physiological monitoring system to a patient;

detecting a selected physiological parameter of the patient;

sensing the physical activity of the patient;

detecting a selected threshold of the physical activity of the patient;

comparing the detected physiological parameter with pre-determined criteria to determine a physiological state of the patient reflecting an alarm condition;

generating an alert signal if the physiological condition of the patient reflects an alarm condition; and

transmitting the signal to the patient via a user interface (170), if the physical activity of the patient is below the selected threshold.

24. (New) A physiological monitoring system comprising:

at least one sensor for detecting a biological signal of a patient;

at least one sensor for detecting physical activity of the patient;

a processor for comparing the detected biological signal with biological signal threshold data and generating a biological signal alarm condition if the threshold is met; and

an alarm system that produces at least two different types of alarms based on the biological signal alarm condition and the physical activity of the patient.

25. (New) The physiological monitoring system of claim 24 wherein the alarm system further bases the alarm type on any detected system malfunctions.

26. (New) The physiological monitoring system of claim 24 wherein the at least one sensor is worn by the patient.